



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,441	04/15/2004	Patrick M. Hughes	17686 (OCU)	1056

7590
Stephen Donovan
Allergan, Inc.
2525 Dupont Drive
Irvine, CA 92612

EXAMINER

NAVARRO, ALBERT MARK

ART UNIT	PAPER NUMBER
----------	--------------

1645

MAIL DATE	DELIVERY MODE
-----------	---------------

07/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/826,441	Applicant(s) HUGHES ET AL.	
	Examiner Mark Navarro	Art Unit 1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-21, 23-27 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-21, 23-27 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 28, 2008 has been entered.

Claims 16, 22 and 28 have been cancelled. Accordingly, claims 1-15, 17-21, 23-27 and 29-33 are pending in the instant application.

All grounds of rejection in the Office Action mailed October 31, 2007 are withdrawn in view of Applicants amendments.

The following new grounds of rejection are applied to the amended claims:

Claim Objections

1. Claims 7 and 11 are objected to because of the following informalities: Claims 7 and 11 fail to end with the punctuation mark of a period ".". Appropriate correction is required.

Art Unit: 1645

2. Claims 21 and 23 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 21 and 23 each recite that the acidity regulating component includes a monomer and an oligomer derived from the first biodegradable polymer/same second biodegradable polymer. Given that both claims depend on claim 1, which already recites that the acidity regulating component comprises a monomer and an oligomer derived from the same biodegradable polymer, accordingly claims 21 and 23 do not further limit anything found in claim 1.

3. Claim 29 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 29 recites that the biodegradable polymer is derived from a third monomer different from both the first and second monomers. However, claim 26 recites that the biodegradable polymer and acidity regulating component are derived from the same biodegradable polymer. Applicant's claim removes the limitation of "derived from the same polymer." Accordingly, claim 29 does not further limit the structure as claimed in claim 26.

4. Claim 32 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 32 recites that the acidity regulating component includes monomers from which a biodegradable polymer of the biodegradable polymer component is derived. However, claim 30 already recites that the acidity regulating component comprises a monomer and an oligomer derived from the same biodegradable polymer, accordingly, claim 32 does not further limit anything found in claim 30.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-15, 17-21, 23-27, and 29-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Donovan et al (US Patent Number 6,506,399) or Donovan et al (US Patent Number 6,312,708).

Applicants are asserting that Donovan et al does not teach an acidity regulating component that includes a monomer and an oligomer derived from the same

Art Unit: 1645

biodegradable polymer for maintaining in vivo pHs of less than about 7 or the means to do so.

Applicants arguments have been fully considered but are not found to be fully persuasive.

Applicants are respectfully directed back to their own claim language. Claim 1 recites wherein the acidity regulating component ***comprises a monomer and an oligomer*** derived from the same biodegradable polymer. (Emphasis added). Donovan et al disclose of the same biodegradable polymers as claimed, e.g., PLGA. (See claims and paragraph 84 of '399). Furthermore, the PLGA polymer disclosed by Donovan inherently ***comprises*** oligomers and monomers of PLGA, as each are building blocks of the polymer molecule. Furthermore, oligomers and monomers of PLGA will be spontaneously generated in vivo as the polymer breaks down.

It is noted that Donovan does not use PLGA "for maintaining in vivo pHs of less than about 7." However, "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003) (rejecting the contention that inherent anticipation requires recognition by a person of ordinary skill in the art before the critical date and

allowing expert testimony with respect to post-critical date clinical trials to show inherency); see also *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004). “[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact was unknown at the time of the prior invention.”); *Abbott Labs v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319, 51 USPQ2d 1307, 1310 (Fed.Cir.1999).

Accordingly, the disclosure of Donovan is deemed to anticipate each and every limitation set forth in the instant claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 1645

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-15, 17-21, 23-27 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan et al in view of Schwendeman et al.

The claims are directed to a biodegradable neurotoxin implant, comprising a neurotoxin component associated with a biodegradable polymer component and an acidity regulating component for establishing in vivo a pH in the vicinity of the neurotoxin component associated with the implant of less than about 7, wherein the acidity regulating component comprises a monomer and an oligomer derived from the same biodegradable polymer.

Donovan et al (US Patent Number 6,506,399) teaches a biodegradable botulinum toxin implant and the importance of maintaining an acidic environment for the controlled release of botulinum toxin in vivo. Donovan et al further teach that pure botulinum toxin is labile and the botulinum toxin type A complexes are extremely susceptible to denaturation due to heat and alkaline conditions. (See claims and summary paragraph 38).

Donovan et al does not teach of acidity regulating components comprising a monomer and an oligomer of a polymer.

Schwendeman et al (US Publication 2002/0009493) teach of methods for inhibiting the inactivation of biologically active agents in biodegradable polymeric delivery systems. Schwendeman et al further teach that the presence of "monomers or

Art Unit: 1645

oligomers can produce acidic microclimate even before polymer degradation occurs.”

(See paragraph 84). Schwendeman et al reported these findings with the polymer PLGA. (Again, see paragraph 84).

Given that 1) Donovan et al have taught of biodegradable neurotoxin implants having a biodegradable polymer and the need for keeping botulinum toxin at an acidic pH to prevent denaturation, and that 2) Schwendeman et al has taught of using monomers or oligomers of PLGA to produce an acidic microclimate even before degradation of the polymer occurs, it would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to have incorporated the monomers or oligomers of PLGA to create an acidic environment for the botulinum toxin neurotoxin implant as taught by Donovan et al. One would have been motivated to produce such a composition in light of the teaching by Donovan et al that botulinum toxin is extremely susceptible to denaturation due to alkaline conditions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Navarro whose telephone number is (571) 272-0861.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on (571) 272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1645

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Navarro/
Primary Examiner, Art Unit 1645
July 8, 2008